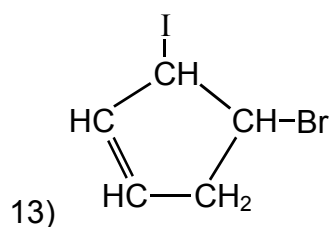
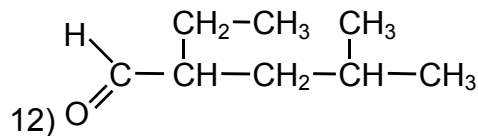
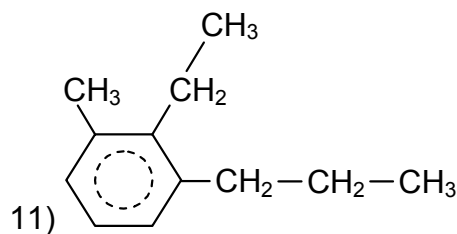
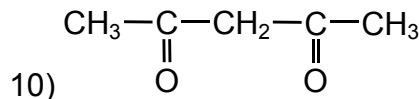
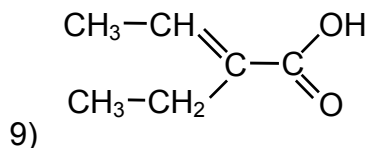
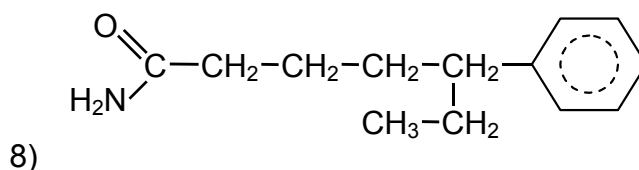
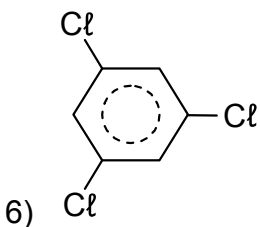
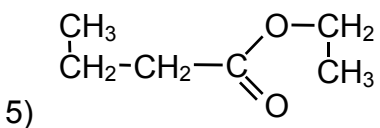
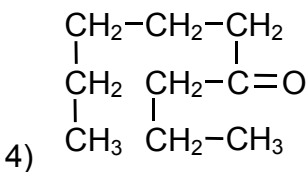
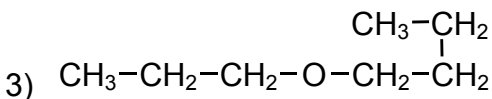
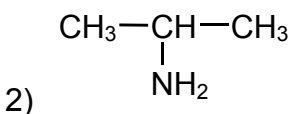
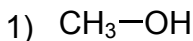


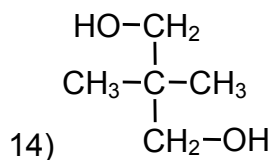
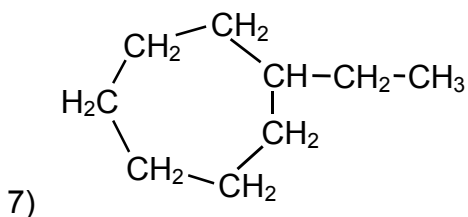
The table at the right summarizes all the information you have about the functional groups in this worksheet. Naming organic compounds can get complicated, but it comes down to simple steps: Find the **functional group**, identify the **carbon chain** and number it, identify **side chains** and their positions, and put all the pieces of the name in order.

COMPOUND	STRUCTURE	NAME	PREFIX
carboxylic acid	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{OH}$	<i>R</i> -oic acid	
ester	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{O}-\text{R}'$	<i>R</i> -oate	
amide	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{N}(\text{R}')(\text{R}'')$	<i>R</i> -amide	
aldehyde	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{H}$	<i>R</i> -al	methanoyl-
ketone	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{R}'$	<i>R</i> -one	oxo-
alcohol	$\text{R}-\text{OH}$	<i>R</i> -ol	hydroxy-
amine	$\text{R}-\text{N}(\text{R}')(\text{R}'')$	<i>R</i> -amine	amino-
ether	$\text{R}-\text{O}-\text{R}'$	<i>R</i> -oxy- <i>R'</i>	oxy-

## EXERCISES

A. Name these organic compounds:

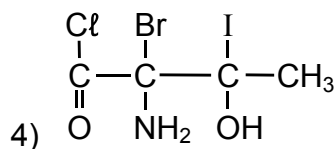
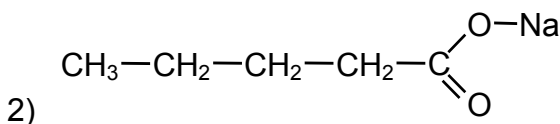
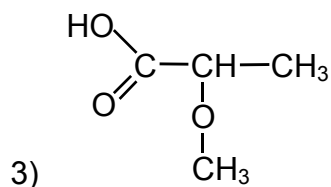
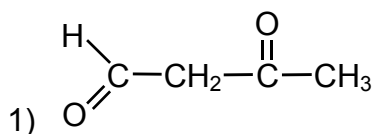




B. Draw the structural diagrams for these compounds:

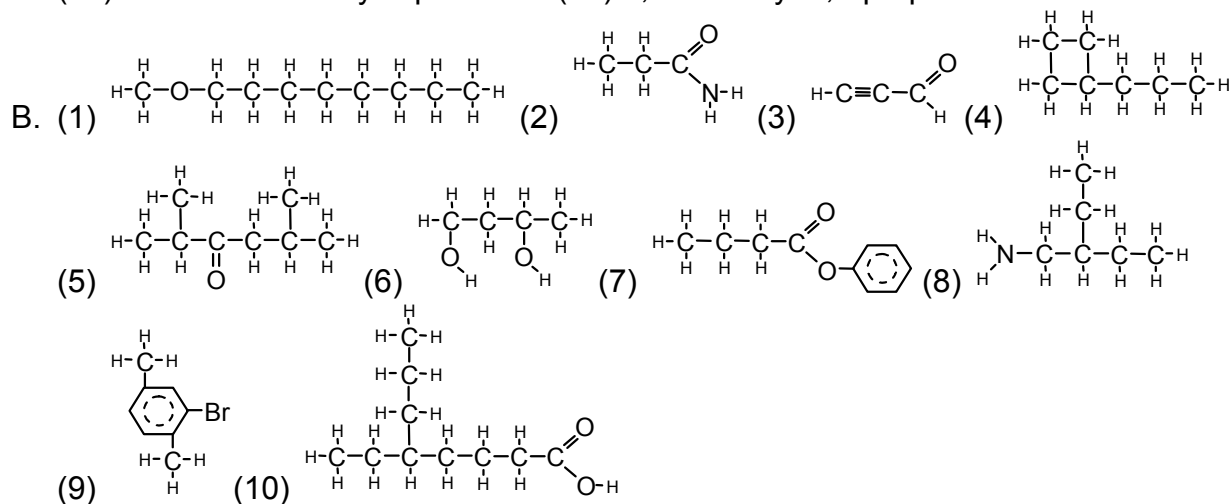
- |                            |                                |
|----------------------------|--------------------------------|
| 1) methoxyoctane           | 6) 1,3-butanediol              |
| 2) propanamide             | 7) phenyl butanoate            |
| 3) 2-propynal              | 8) 2-ethyl-1-butanamine        |
| 4) propylcyclobutane       | 9) 2-bromo-1,4-dimethylbenzene |
| 5) 2,5-dimethyl-3-hexanone | 10) 5-propylheptanoic acid     |

C. **Optional.** Name these organic compounds:



## SOLUTIONS

- A. (1) methanol (2) 2-propanamine (3) propoxybutane (4) 4-nonanone  
 (5) ethyl butanoate (6) 1,3,5-trichlorobenzene (7) ethylcycloheptane  
 (8) 3-phenylheptanamide (9) 2-ethylbutenoic acid (10) 2,4-pentanedione  
 (11) 2-ethyl-1-methyl-3-propylbenzene (12) 2-ethyl-4-methylpentanal  
 (13) 4-bromo-3-iodocyclopentene (14) 2,2-dimethyl-1,3-propanediol



- C. (1) 3-oxobutanal (2) sodium pentanoate (3) 2-methoxypropanoic acid  
(4) 2-amino-2-bromo-1-chloro-3-hydroxy-3-iodo-1-butanone